

Introduction



In 2000, Congress enacted the State Wildlife Grants Program to support state programs that broadly benefit wildlife and habitats but particularly “species of greatest conservation need.” As a requirement for receiving funding under this program, state wildlife agencies submitted a Wildlife Action Plan (a comprehensive wildlife conservation strategy) to the U.S. Fish and Wildlife Service no later than October 2005. The California Department of Fish and Game (Fish and Game), working in partnership with the Plan development team at the University of California, Davis, directed the development of this report, *California Wildlife: Conservation Challenges* (the comprehensive wildlife conservation strategy) and associated Web publications.

California Wildlife: Conservation Challenges is directed at answering three primary questions:

- What are the species and habitats of greatest conservation need?
- What are the major stressors affecting California’s native wildlife and habitats?
- What are the actions needed to restore and conserve California’s wildlife, thereby reducing the likelihood that more species will approach the condition of threatened or endangered?

Fish and Game’s Public Trust Responsibility for California Wildlife

Fish and Game has public trust responsibility and jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species. That includes the authority to designate

and manage threatened or endangered native animals and to establish game refuges, ecological reserves, and other natural areas.

As the state's trustee agency for fish and wildlife resources, the department is responsible for providing biological expertise to review and comment upon environmental documents and impacts arising from development and other project activities as they are considered under the California Environmental Quality Act (Fish and Game Code 1802). ("A trustee agency" is a state agency having jurisdiction by law over natural resources that may be affected by a project and that are held in trust for the people of the state of California.)

Fish and Game responsibilities also include:

- Conducting wildlife resource assessments, wildlife and habitat research and monitoring, conservation planning, and wildlife management.
- Serving as lead agency for the development of Natural Community Conservation Plans.
- Collecting scientific data, conducting analyses, and developing regulations to provide hunting and fishing opportunities for the public, activities required by statute, providing considerable public benefit and contributing substantially to the state's economy.
- Serving as the principal public contact for wildlife issues in all counties and communities.
- Educating the public on wildlife conservation and wildlife public safety issues.
- Providing technical advisers for species and habitat conservation planning efforts and evaluating lands considered for acquisition for benefit of wildlife resources.
- Advising local governments, various commissions, and working groups regarding biological, technical, and conservation issues.
- Serving as the lead agency charged with resolving livestock depredation problems and other wildlife conflicts, an increasing challenge due to growth and development in rural communities and natural areas and expansion of agricultural activities.
- Participating in the development of strategies to manage wildlife disease and responding to potential outbreaks of disease (adenovirus, duck viral enteritis, botulism, chronic wasting disease, etc.).

Audience

Conserving wildlife in California requires the efforts of law enforcement, biologists, land managers, research scientists, water resource experts, city and county planners, landowners, developers, educators, policy-makers, and many others. Generally, this report is written with this broad audience in mind. However, certain portions of this report may be more useful for certain audiences than others. In particular, the Wildlife Species Matrix, which is described in Chapter 2 (and available on the Web at <http://www.dfg.ca.gov/habi->

tats/wdp/matrix_search.asp), was prepared more specifically for biologists and conservation planners. Much of this report is a discussion of biological or ecological information and issues. An effort was made to present issues concisely using common terminology for a general audience. Where technical terms or concepts are used, they are defined or they are in **bold face** and may be found in the Glossary.

Tone

A significant portion of this report discusses how problems, threats, or stressors negatively affect wildlife species and habitats. This is inherently a negative topic. There are hundreds of positive examples of private organizations, landowners, and public agencies working to solve problems affecting wildlife and to restore degraded habitats. But this report is specifically focused on stressors affecting wildlife and what additional actions are needed to maintain wildlife diversity in the future. The issues are presented in a straightforward style, describing effects of a stressor or group of stressors on habitats, ecosystems, or species. For example, the report is direct about how growth and development are replacing and fragmenting wildlife habitats. The directness of the report should not be interpreted as a lack of appreciation for the legitimacy and benefits of activities and projects that also affect wildlife. Residential and commercial development, agricultural operations, diversions of state waters, and recreational activities are all necessary and important. However, the report does recommend changes in human activities, such as improving conservation planning, to reduce the impact of development on important habitats.

Regional, Habitat, and Multispecies Approach

The California Wildlife Action Plan approaches conservation issues and needs from a regional landscape, habitat, and ecosystem level, rather than taking a species-by-species approach. This is consistent with current conservation biology science and recommendations of conservation practitioners. For example, in California, since the early 1990s, federal, state, and local agencies have collaborated to develop Natural Community Conservation Plans (NCCPs) that protect habitat areas important to numerous species within a region. (See further discussion of NCCPs in Chapter 6.) In 2000, California enacted amendments to the NCCP statutes, reconfirming the state's endorsement of broad regional-scale approaches to wildlife conservation. Nongovernmental conservation organizations, such as The Nature Conservancy, are encouraging broad approaches to conservation, developing projects that

benefit not just individual species but the full complement of species that make up ecological communities.

In the sections on species at risk in the regional chapters, two or three species at risk are discussed to illustrate how stressors or threats affect species and to highlight conservation challenges and opportunities. These species discussions are not intended to imply that conservation should have a single-species approach, although recovery of some species requires very species-specific actions.

Defining Regions for the California Wildlife Strategy

From the deserts to high mountains to the coast, California is geographically extensive, with great diversity of climate, topography, and ecology. State and federal wildlife and land-management agencies have divided the state into practical management jurisdictions based roughly on distribution of biological resources but also on the necessity of creating manageable areas. California's Biodiversity Council has designated regions based on these agency management jurisdictions combined with ecological features of the landscape. The Plan development team took an approach similar to that of the Biodiversity Council, with some adjustments.

Regarding Plants and Plant Communities

California Wildlife: Conservation Challenges is focused on wildlife (vertebrates and invertebrates) and the habitats and ecosystems that sustain them. Obviously, plants and plant communities are integral components of habitats and ecosystems. However, it is beyond the scope of this report to review individual plants or plant communities. But as components of habitats, plants are discussed indirectly throughout the report. Plants or plant communities are integral to topics about stressors such as invasive plants and as affected habitats that are important for maintaining wildlife diversity. Habitat descriptions include mention of important dominant or characteristic plants.

Identifying Major Stressors and Conservation Actions

The major regional stressors were identified through regional stakeholder workshops, Fish and Game scoping meetings, consultations with 20 to 30 resource experts in each region, and through review of major conservation planning documents. There was very little disagreement among those participating regarding the major stressors affecting wildlife. A

few stressors that may be considered major are not addressed in this report. If the stressor is not within the jurisdiction of or likely to be affected by the work of wildlife- and natural resources management agencies or organizations, this report may not have addressed it. For example, air pollution is certainly a stressor affecting soils in the Mojave Desert and forest ecosystems in the Sierra Nevada, but solutions to air pollution will most likely be motivated by human health considerations in urban areas rather than any management consideration regarding wildlife resources. Thus, this report does not highlight air pollution as a stressor.

The conservation actions to address the effects of the major stressors were developed through the sets of workshops, scoping meetings, expert consultations, and document reviews noted above. Several conservation issues particularly important for maintaining wildlife diversity were prominent statewide. For these topics, the Plan development team organized seven day-long conservation-action workshops. The results of the conservation action workshops can be found at <http://www.dfg.ca.gov/habitats/wdp>. Development of the conservation actions also received input from the Fish and Game Statewide Review Team and from 45 outside expert reviewers.

Coordinating Implementation of Conservation Actions and Updating *California Wildlife: Conservation Challenges*

The Director of the Department of Fish and Game will establish a Conservation Strategy Special Project Team to coordinate, facilitate, and monitor the implementation of conservation actions recommended in this plan. The Special Project Team will work with other agencies, nongovernmental organizations, local governments, and landowner interests to encourage partnerships for conservation and to improve planning and project coordination. The Special Project Team will also monitor and evaluate progress of the conservation actions and prepare a biennial progress report on their implementation. In addition, Fish and Game will continue to routinely update information regarding special status species. Additional work relevant to the Plan and implementation updates will be made available on the Web at <http://www.dfg.ca.gov/habitats/wdp>. It is the goal of Fish and Game to assess the status of stressors and update conservation actions appropriately and amend *California Wildlife: Conservation Challenges* every five to 10 years.

Overview of the Report

Part I discusses statewide issues. Chapter 1, California's Natural Diversity, is an overview of the extraordinary diversity of plant and animal species of the state. Chapter 2, Species at Risk in California, summarizes the special status species and endemic species statewide. The components of the Wildlife Species Matrix, a Web publication, are also defined. Chapter 3, Threats to Wildlife Diversity, summarizes the major threats to wildlife across the state. Chapter 4 presents recommended statewide conservation actions. Chapter 5 discusses the importance of monitoring and adaptive management, current monitoring efforts, and monitoring for effectiveness of conservation actions. Chapter 6 addresses the conservation capabilities of the state. Resource assessment and conservation planning are two key functions the state provides for conservation of wildlife. Sections 1 and 2 of Chapter 6 address the status of these functions and the limited capabilities of Fish and Game to provide them. All of the state's conservation efforts are constrained by funding, and many of the recommendations of this report will not be implemented without greater investment in conservation. Section 3 of Chapter 6 looks at Fish and Game's challenge to fund the implementation of expanding wildlife stewardship mandates.

Part II of the report contains a chapter on each of the nine regions. Each chapter addresses species at risk, stressors affecting wildlife and habitats, and conservation actions. (See the Introduction to Part II for an overview of the content of the sections of the regional chapters.)

California Wildlife: Conservation Challenges is also available on the Web at <http://www.dfg.ca.gov/habitats/wdp/> in English and Spanish. The report's affiliated Web publications are also available at this Web site.